DAN HILL & ASSOCIATES, INC.
FLOW BOY MANUFACTURING TOTAL TRUCK AND TRAILER EQUIPMENT

October 20, 2003

Mr. Stephen R. Kratzke
Associate Administrator for Rulemaking
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

RE: NHTSA Docket 03-14396
Federal Motor Vehicle Safety Standard No. 224: Rear Impact Protection
NPRM: 68 Fed.Reg. 54879 (September 19, 2003)

Dear Mr. Kratzke:

Dan Hill and Associates, Inc. ("Dan Hill") submits this letter in support of the Notice of Proposed Rulemaking proposing that Federal Motor Vehicle Safety Standard No. 224 be amended by adding road construction controlled horizontal discharge semi trailers ("RCC horizontal discharge trailers ") to the list of excluded vehicles of the standard, thereby creating a permanent exclusion for RCC horizontal discharge trailers from the requirements of the standard.

Dan Hill has worked diligently to comply with the Standard since before July 17, 1997 when the industry was advised by NHTSA that the RCC horizontal discharge trailer was not a "special purpose vehicle" under the standard, and accordingly, would not be exempt from compliance with the Standard. Dan Hill filed its first Petition for Exemption on October 15, 1997 and has operated under temporary exemptions since that time.

Despite its efforts, Dan Hill was unable to develop an under-ride protection system for the RCC horizontal discharge trailer that was safe, functional, and commercially acceptable. For these reasons, Dan Hill, along with Red River Manufacturing, a Division of Trail King Industries, Inc. ("Red River"), petitioned NHTSA on March 23, 2001 to exclude RCC horizontal discharge trailers from the Standard. The Petition for Rulemaking was based on the inability of the industry to design a compliant under-ride protection system for the RCC horizontal discharge trailers thereby enabling the trailers to interface with a paver hopper in the delivery of asphalt and other road building materials to the road construction site. The installation of a fixed rear under-ride guard makes it impossible to position the RCC horizontal discharge trailers over the paver hopper for the delivery of the construction materials, because the guard does not permit the asphalt conveyor to reach sufficiently into the paver hopper. A more detailed discussion of the compliance efforts and RCC horizontal discharge trailer/paver interface problems can be found in previous filings with NHTSA by Dan Hill and Red River.

Following is a discussion of the five specific issues set forth in the NPRM:

1. **Is a wheels back design a practical vehicle design alternative for RCC horizontal discharge trailers? Please provide data and information to support your response.**

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Dan Hill and Associates believes that a "wheels back" design is not a practical vehicle design alternative. The "wheels back" dimension does not leave enough physical space to accommodate the belt conveyor, the drive system components and the belt wiping/cleaning elements. While many modern pavers have a device that mechanically secures the trailer to the paver during the discharge cycle, this is not the rule with all. Thus, there is a real risk of trailer/paver separation during the discharge cycle. With the existing RCC horizontal discharge semi-trailer design, if the trailer and paver separate, there is rarely a problem. This is because there is enough overlap between the trailer and paver to prevent spillage on to the ground immediately in front of the paver.

With the current "wheels back" dimension of 305 mm, there is no tolerance for the occasional trailer/paver separation. There is a dramatic increase in the likelihood that materials will spill on to the ground in front of the paver. When this occurs, a cascading problem-stream begins: the paving operation has to stop, man-power resources have to be re-directed from the rear of the paver to the front of the paver, the finished road-surface quality is compromised and a substantial drop in productivity occurs. Also, "wheels back" dimension does not allow for the articulation of the RCC horizontal discharge trailer and the paver at the point that they are joined and are traveling, together, around the radius of a curve while paving. When the dimension of overlap of the trailer/paver is minimized to accommodate the "wheels back" dimension, the likelihood for material spillage, once again, increases dramatically.

All of these results are the enemy of the road-building contractor and the trucking firms that service their material-transportation needs.

2. **What is the maintenance and performance history of RCC horizontal discharge trailers with wheels back design?**

Dan Hill and Associates has not pursued this design because it is not a practical vehicle design alternative.

3. **Is a retractable under-ride guard design a practical solution for RCC horizontal discharge trailers? Does such a design create a risk of injury to workers operating or working near the trailer? Please provide data and information to support your response.**

Dan Hill and Associates believes that a retractable under-ride guard assembly would, by necessity, be mounted in very close proximity to the discharge area of the trailer and receiving hopper of the paver. It is inconceivable that this guard would not become covered with either asphalt or concrete materials. Due to the volume of material being discharged, it is likely that an additional, manual cleaning procedure would be required to be performed by the operator after each discharge cycle. This procedure would be necessary to:

a) protect adjacent vehicles from the hazard of payload materials falling off during transit; and
b) to protect the guard retraction mechanism from damage as a result of payload material contamination and accumulation on mechanical pivot or sliding elements.

In addition, the procedures to a) clean the under-ride guard or b) manually lift and lower the guard (in a manually-operated guard design) creates unnecessary hazards to the health and well-being of operating personnel.

The average paving operation is dynamic and distracting in nature. Ambient noise, constant movement of the paving equipment, constant equipment adjustment, constant material inspection for quality, constant paved surface inspection for quality, etc. requires a relatively large number of people to perform these functions in a relatively small physical space. The requirement to have a transporting device (the RCC horizontal discharge trailer) stop in front of the paver, lift the retractable guard, connect with the paver ,unload the payload, pull forward out of the paver, stop and first lower and then clean the retractable guard and then leave the paving site creates unnecessary exposure to injury. Even if the guard were automated, it would still need to be inspected and cleaned after every unloading procedure, requiring the operator to leave the truck just as he/she would with a manually-retracted guard. With every exit/entry in to and out of the truck cab and with every lift, lower and cleaning cycle that would be required for the retractable guard, there is a high risk of :

a) soft-tissue injuries (sprains and strains, etc.);
b) major injuries or death as a result of being struck by adjacent construction traffic that is operating in close proximity; and
c) laceration or compression injuries as a result of improper or careless operation of the retractable guard.

4. **What is the maintenance and performance history of RCC horizontal discharge trailers with retractable under-ride guards.**

Dan Hill and Associates does not believe that the retractable under-ride guard design is a practical vehicle design alternative and thus has no comment.

5. **Has any manufacturer of RCC horizontal discharge trailers subject to this notice been able to alternatively design a compliant vehicle equipped with an under-ride guard, that is able to slide over the paving machine in order to discharge asphalt mix?**

Dan Hill and Associates has created compliant prototype designs that, in each case and for a variety of reasons, could not fulfill the application requirements of the road-building industry for reasons stated in this correspondence and in previously-submitted petitions.

Finally, in support of the proposed amendment to the Standard, Dan Hill states that RCC horizontal discharge trailers spend most of their time at a construction site and travel public roads infrequently. The risk of a severe under-ride collision with one of these trailers is further limited by the location of the rear-most axle, which is relatively close to the rear of the trailers.

As set forth in earlier filings, Dan Hill also submits that a permanent exclusion for RCC horizontal discharge trailers will provide the safety benefit of allowing the continued manufacture and sale of a safer alternative to the steel end dump truck, the principal competitor to the RCC horizontal discharge trailer for the delivery of asphalt and other road construction materials. RCC horizontal discharge trailers more easily avoid overhead obstructions, are more stabile, are better insulated, reduce material segregation, and are more flexible, thereby allowing the road builder greater flexibility by controlling the rate of discharge of the road building material.

Dan Hill requests that NHTSA take prompt action to complete this rulemaking proceeding and adopt a final rule providing an exclusion for RCC horizontal discharge trailers from the Standard.

Sincerely,

Terry Hill, President
Dan Hill and Associates, Inc.